# California. GARDEN

FORTY-SECOND YEAR

SPRING 1951

VOLUME 42, NO. 1

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ALFRED CARL HOTTES
An Appreciation

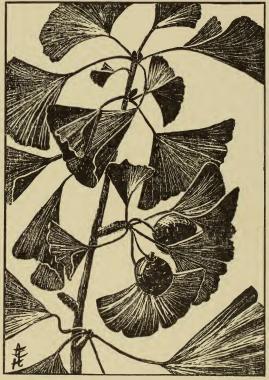
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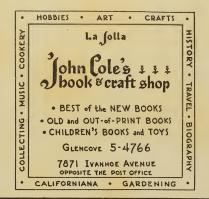
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#### CALIFORNIA GARDEN

Published Quarterly by the SAN DIEGO FLORAL ASSOCIATION Under the sponsorship of The Park and Recreation Dept., City of San Diego

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San Diego 1, California

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#### CALENDAR of EVENTS

Unless otherwise stated, the following meetings will be held in the Floral Association Building, southwest of the Organ, in Balboa Park.

#### MARCH

SUNDAY, MARCH 4 . . . . 1 to 5 p.m. Open House

Exhibits of Native Flowers and Shrubs. Herbs and Native Plants Suitable for Home Gardens, Courtesv Botany Department, Natural History Museum and Lakeside Nursery.

TUESDAY, MARCH 20 . . . . 8 p.m. Monthly Meeting of Floral Association Lecture: Landscaping with Flowering Trees-Harold Curtiss.

#### APRIL

SUNDAY, APRIL 1 . . . 1 to 5 p.m. Open House

Flower Arts-Exhibit and Demonstration, in charge of Mrs. Arthur Mitchell.

TUESDAY, APRIL 17 . . . . 8 p.m. Monthly Meeting of Floral Association Illustrated Lecture (colored motion pictures): Birds of San Diego County -James Dixon.

SUNDAY, MAY 6 . . . . . 1 to 5 p.m. Open House

> San Diego Garden Plans and Plants. Special exhibit in connection with Spring garden visits.

TUESDAY, MAY 15 . . . . . 8 p.m. Monthly Meeting of Floral Association Lecture: Basic Principles of Gardening - Mirandy.

SATURDAY and SUNDAY, MAY 5 and 6 Garden Visits Around San Diego

Watch for special announcements.

#### FLORAL ASSOCIATION ON THE AIR

Thursday, May 3, 1951-10:15 AM Tune in KFSD-listen to the story of the San Diego Floral Association and its achievements during the past year -its civic interests, its friends far and near and its start on plans for the future. Courtesy Heaven on Earth Club.

## California Garden

Forty-Second Year

SPRING, 1951

Volume 42, No. 1

Charles C. Gilbert, enthusiastic young grower in the soilless manner, tells of his experiences in Hydroponics. You who agree or disagree will enjoy talking to him at his laboratory, 3535 Enterprise Street.

## Hydroponics -- Modern Magic

CHARLES C. GILBERT

"You can grow better plants without soil!" is a statement which has caused sensational and violent reactions during the years we have used it in our company catalog and direct mail advertising. People have written to us from every state and from every foreign country, their letters, in the thousands, fitting into one of these four groups: 1) I don't believe it; 2) Prove it; 3) Tell me more, and 4) Yes, it's true.

Regardless of the group, the tremendous number of responses indicates intense interest in the subject of soilless growing and encourages those who believe, as I, in its future as a permanent and valuable contribution to agriculture.

Many of the people who don't believe our claim have tried soilless growing in the past and have had such poor results that the very mention or sight of the word "Hydroponics" causes them to shake with wrath. Investigation invariably shows that the great percentage of these have been victims of one of the promotional geniuses who started an international water culture fad about 15 years ago. You may remember the extravagant claims made then, such as "Grow gigantic vegetables in your basement or kitchen broom closet with a package of our super magic

plant food, etc." At least 90% of the early failures was caused by this type of promotion which resulted in unreasoning excitement over something "new" accompanied by absolute disregard for the fundamental requirements of plant growth—light, air, root support, temperature, drainage, and balanced nutrition. Hydroponics has grown up since those early days and many disappointed pioneers who have tried again find that soilless culture now offers rewarding results.

Hydroponics is a mechanical substitute for soil culture. It performs the two major functions of the soil (root support and plant nutrition) in a controlled and scientific manner, yet is extremely simple in principle and operation. Suppose you fill an ordinary flower pot with clean gravel, plant a seedling tomato plant in the gravel just as you would plant it in soil —same depth, same careful attention to the root structure, same "watering in" to prevent wilt and shock. Behold! you are now a soilless grower—the tomato plant will live and grow for several days in the gravel if you simply water it. Nourishment from tap water is pretty skimpy, however, and unless additional food is supplied your days as a hydroponic gardener are numbered. So, to con-

tinue the project, dissolve a teaspoonful of an inexpensive soilless growing plant food in a gallon of water. Use this solution to feed the plant and it immediately responds with sturdy, fast growth. It will mature and bear delicious red fruit if the remaining essentials of plant culture are supplied -light, heat, free circulation of air. Remember, the plant hasn't changed. Only the methods of feeding and supporting it are different. The same success can be expected with any plant, flower or vegetable, as long as you don't lose sight of its cultural requirements.

A simple listing of the advantages of soilless growing is pretty impressive, and makes even the experienced growers sit up and take notice. There are probably more advantages than the ones I have listed. Some of these will be more important to commercial growers than to home gardeners but all are points to consider if you are deciding whether or not to try this new method of growing. The advantages: Improved quality, larger yields, closer planting, cleanliness, uniform results, healthier plants, simplicity of operation, ease of starting new plants, reduced labor. lower costs, no weeds, no rotation, no cultivation, no soilborne diseases.

Sounds too good to be true? "Yes, prove it!" Well, I can't prove it—I can only tell of my experiences and those of other soilless growers. You will have to prove the worth of hydroponics to yourself. Why not? For the price of a good steak dinner, you can buy a few chemicals, your favorite vegetable or flower seeds, and some clean gravel. That's not much to risk for the chance of getting the thrill of your life when those seeds develop into the biggest, healthiest plants this side of a seed catalog. That's the way for you to prove it.

Magazines and newspapers are filled with stories of worn out soils and marginal land just barely able to produce a minimum crop. Perfect soil produces quality products, but soil-grown plants developed in anything but rich, fertile soils are not up to standard. Perfect soil is a rare and uncommon thing anyway, and even if the grower is fortunate enough to start with it, he has a full time job just maintaining it. The plants themselves use up much of the fertility, weeds and soil diseases compete with desirable plants and the rains leach the very life from the once good earth. It is necessary to fertilize, cultivate, irrigate, rotate, pray and perspire in order to keep good soil fertile or to improve worn out soil. In hydroponics, the grower is assured of best quality vegetables and flowers because his plants are assured of a constant, uniform supply of complete plant food. Vegetables grown without soil are rich in mineral and vitamin content, are tastier and more nutritive than those grown in most soil. Flowers are brilliantly colored and sturdy, usually exceeding soil grown varieties in health and vigor.

Larger yield in soilless growing is the one feature most frequently discussed. Once in a while some

popular writer with more enthusiasm than good sense gets off base and dreams up a sensational and fascinating article about hydroponics. He is carried away with visions of growing tons of vegetables in a two-foot square box tucked away in a corner of the kitchen. Of course, that kind of propaganda gives soilless growing a black eye. After reading something like that, most thinking people dismiss the whole subject of soilless growing as a crackpot scheme to separate fools from their money. The few who do try it expect miracles to happen the first 30 minutes and when they don't happen, the disillusioned amateur grower loses interest. The negiected plants die, and the general acceptance of hydroponics has suffered another setback. The once over-eager amateur becomes an "expert" and tries to convince anybody who will listen to him that there isn't anything good about hydroponics-it won't work-he knows, because he tried it!

Hydroponic yields of vegetables and floral crops indicate that under ideal conditions, soillessgrown plants will out-produce soilgrown by at least ten to one. Much of this increased yield can be credited to the closer planting permitted in hydroponics, but it is also true that the yield per plant will be higher than in soil. Properly staked and pruned tomatoes should produce at the rate of 150 to 200 tons per acre, while soil growers brag about the year they brought in 25 tons on one acre. You might exceed the yields of soilgrown plants by considerably more than this on a small scale and under glass. In my small greenhouse I have planted tomatoes as close as one to each square foot of growing bed and averaged just under 20 pounds of fruit per vine. It was too close for a large scale operation. Radical pruning

of foilage was necessary to get the maximum light to each plant. All sucker shoots were removed as soon as they struggled into sight, so that each plant was kept to a single vine. When the plants reached the top of the greenhouse, I cut off the tops and continued to prune them back throughout the winter season. For large installations I recommend that about twice this growing area be given to tomatoes. The yield should be at least as good per plant, possibly better, due to increased light and air. At this spacing, and assuming you average 20 pounds to the vine, one acre of tomatoes would yield better than 400 tons. To put it mildly, that is a lot of tomatoes, and I have no proven records to show that anyone has actually produced that much—yet. It will be accomplished one of these days.

To get down to actual cases, the following figures prove that a properly operated soilless installation will produce amazingly well. The U.S. Army kept accurate records on the production of tomatoes, radishes, lettuce, green peppers and cucumbers grown in the 30,000 square feet of gravel beds on Ascension Island. The first year of operation, 1945, resulted in a total yield of about 94,-000 pounds—somewhat more than three pounds per square foot. To compare this figure with an average yield of soil-grown tomatoes, for instance, points up a difference in yield of six to one-in favor of hydroponics! This comparison is all the more impressive when you consider that no fresh water was available on the island and the entire hydroponic operation was carried on with distilled sea water. Additional substantiated reports from countless growers throughout the world indicate that soilless yields of all crops are averaging about ten to one over soil.

To the home gardener who is tired of grubbing around in the dirt trying to coax his reluctant flowers to bloom, I recommend that he throw away his muddy boots and overworked garden clothes and take up soilless growing. To the commercial grower who thinks in terms of top soil, compost, chicken droppings and cow manure, I recommend that he stop relying on the rotting and smelly refuse of plants and animals and start working with clean chemical salts.

The Army's multi-million dollar soilless growing project in Japan was installed for just one reason-cleanliness. Centuries of unsanitary and primitive fertilizing practices of the Japanese farmers filled their soil so full of disease and filth that the crops were unfit to eat. I was a member of the occupation forces in Japan and shared with thousands of other soldiers the mouthwatering longings for fresh vegetables. The Nips were growing lettuce, tomatoes, onions, radishes and all the other salad crops but, in spite of the temptation to eat those fresh vegetables, the thought of the way they were grown and the dangers of even one small bite kept most of us in line with the strict regulations against eating Japanese food. The completion of the big U. S. Army soilless growing project just a few miles from Tokyo renewed the almost forgotten joy of eating crisp, fresh vegetables. We got them by the ton, fresh out of sterile gravel and pure water. I wish that those who are not yet convinced of the value of soilless growing could see the harvests taken every day from those 55 acres of hydroponic gardens.

Every once in a while I send out letters to commercial soilless growers all over the United States to ask for the latest information on their methods and results. Not long ago the head man of one of the most successful big nurseries in the middlewest wrote me the following worthwhile comment, "Once the technique of soilless culture is demonstrated, it can easily be repeated. Soil, on the other hand, is an unknown, and results are not always the same even with identical treatment." That's from a practical grower who has spent years at the business of making money by raising flowers and vegetables with and without soil.

The characteristic health and vigor of soilless-grown plants and their products of fruit, vegetables and flowers impresses the soil gardener who first sees a hydroponic growing unit in operation. Resistance to insects and disease is greatly increased in the plants which have the daily benefit of ideal growing conditions instead of a continuous struggle to adjust their lives to the whims of the weather and the nutritional irregularities of soil. Because soilless-grown plants do not have to search for their food by extending roots great distances, more of the mechanically furnished food is used in developing the size, health and quality of the fruit and flowers. The difference in root sizes between soil and soilless-grown plants is startling. Full grown sweet peas raised in a hydroponic bed have a root system less than half the size of the same flowers grown in soil.

"Damping off," the bug-a-boo of all soil growers, is a rare occurrence to the hydroponic convert. Usually started by excessive dampness, the little seedlings attacked by one of the damping off diseases give up and die before they have even started to have any fun out of life. If there is a critical period in plant growth, I would say it's the seedling period when new plants are adjusting to man handling. Seeds germinated in sand or fine gravel grow success-

fully through this dangerous age because the moisture can be controlled more exactly than in soil. Using sub-irrigation, the roots can be fed while the surface of the bed remains dry. This favorable combination of cultural conditions is most discouraging to damping off symptoms and diseases. Ease of transplanting to and from sand or gravel beds is also an important consideration to those who operate large growing installations. The small root systems of soillessgrown plants are vigorous and will quickly accommodate themselves to new planting positions. The small particles of sand should be allowed to remain on the roots, and the young plants set into a scooped out hole in the new growing bed. Cuttings will root in sand so successfully that even confirmed soil growers use it to insure a good start before transplanting to soil.

The elimination of weeds alone is enough of an advantage to interest home gardeners. Soilless growers have no need for the rake, the hoe and the shovel—ancient equipment for the ancient art of soil workings, the principles of which haven't changed a bit since early man grubbed around in the dirt with a pointed stick many thousand years ago.

The menace of wireworms and nematodes, two particularly destructive members of the soil insect family, is gone from the soilless garden, eliminating the expense of insecticides and fumigants for their control.

If you decide to try soilless growing, keep in mind the simple principles involved and you will be amazed at your success right from the start. I know that you will enjoy your experiences with modern hydroponics and incidentally become an enthusiastic member of group 4—those who say, when they read "You can grow better plants without soil," "Yes, it's true!"



Water cress less than two weeks from seed growing in plastic flower pot filled with Hydro-Lite—a soil substitute used in hydroponics.



Mr. & Mrs. Fred Murdock are successful hydroponic growers. Shown here in the gardens they built themselves, the Murdocks started with soilless growing as a hobby—rapidly built it up to a full time business.



These two photographs were taken on a back porch Hydroponic "farm." Only special technique used was an hour or two of electric light furnished plants in evenings plus automatic feedings three times a week. A period of only four weeks had elapsed from first to second photograph. Plants shown include tomatoes, peas, onions and cucumbers. Both pictures were taken in the months of January and February—dead winter and supposedly the off-season for vegetables.



Mrs. Fred Murdock displays the abundant yield of hybrid tomatoes raised without soil. She gets top prices for these vine ripened, delicious fruit.



Mrs. Mira Coffin (above and below) shown in her California hydroponic gardens where tomatoes and strawberries are raised side by side in plain gravel.



Mr. Lippitt plays a part with our charming authoress in these-

#### Leaves From The Observer's Notebook

By Marion Almy Lippitt

Henry wasn't listening. I knew that from the steadiness of his newspaper. Yet after dinner is our agreed time for conversation.

I continued: "It's amazing how distinct each season is here in Southern California, considering how imperceptibly one season glides into the next."

"Umhum." The acknowledgement seemed to come from behind the newspaper.

It encouraged me sufficiently to say:

"Spring brings the same demand to be up and doing, no matter where you are. Even New England spring house cleaning is attributed to the biological urge."

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Route 1, Box 300J—Ramona Phone Bayview 4652 Henry's attention was arrested by the words "New England." I went on quickly, "Here we have the surprise of running streams and the joy of replenished reservoirs, as well as blooming flowers and singing birds." I waited for a moment, then added, "It must be that spring brings renewed hope and faith to hearts everywhere."

Henry turned a page and nodded his acquiescence before he submerged again. The back of the newspaper remained inexpressive. I tried another attack.

"I learned something today," I announced. The newspaper fluttered hopefully. "Isn't the secret of gardening success to enjoy each process as it comes along? I mean whether it is preparing the soil, watering, weeding, or spraying." I put down my knitting and sat watching the open fire before I murmured, "When I enjoy myself, I am living in the present. When I live in the present, I am happy and the world's problems seem less grim."

Henry looked up smiling. It is a smile that erases his short-comings from your memory. "How did you come by such profound observations?" he asked.

"I learned it from the children as they played ball. They were a constant flow of joy and color." Involuntarily I found myself repeating Vilate Raile's poem:

Giggles push to be set free Songs begin inside of me Feet are tripping off in glee Mother says,

She tells by me When it's spring!

Henry laughed. A log in the fireplace broke apart. He rose and replaced the embers. The evening was cool. Spring, looking back,

had caught a glimpse of winter. I pressed on, inspired by an audience on its feet.

"This morning when I was falling over myself in my determination to become an expert gardener, the meek shoot of a crocus which I had bedded so carefully last October rebuked me."

"'What's your hurry?' it called smugly. 'You can't have spring without me.'"

"'Who'd want to?'" I retorted.
"But do you know I felt chagrined at being rebuked by a crocus?"

Henry turned from the fireplace and walked leisurely across the room. He stood in front of the bookcase, obviously looking for a certain volume. When he found it and the page in it he wanted, he came and stood before me.

"The trouble with you is," he said, "You underestimate the influence of a crocus. Listen to Thomas Bailey Aldrich." He read:

When first the crocus thrusts its point of gold

Up through the still snowdrifted garden mould,

And folded green things in dim woods unclose

Their crinkled spears, a sudden tremor goes

Into my veins and makes me kith and kin

To every wild born thing that thrills and blows.

Henry handed me the book, and patted me on the head. He sat down and disappeared behind his newspaper, satisfied that he had made his contribution to the evening's entertainment. I smiled and continued to knit in silence. I could not spoil such an exit line. I had learned long ago that cultivating the masculine ego is an all-season job.

#### **APRIL 28-29**

Saturday And Sunday

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We know just what Mr. Ziesmer means when he refers to the nostalgia awakened by "grandmother's flowers" in—

#### Julian, Home of Sentimental Flowers

RAYMOND ZIESMER

Julian is a "high" spot in San Diego's back country. In early days the two communities were intense rivals, San Diego narrowly capturing the county seat. Down the race of years one has become a great city, the other has remained a bit of New England nestled in the wooded Lagunas.

Agriculturally, Julian is bounded on the East by dates and desert, on the West by citrus and cattle. Summer may spend the winter in San Diego, but it does not tarry at Julian in January. Therein lies the heart of its horticulture. Its unirrigated orchards produce good apples, pears and peaches, and flowers brought by the pioneers from their colder homes have thrived.

To the coastal emigrants, coming in their autos, these flowers stirred nostalgic memories of the old home back East. They wanted them. A few lilac bushes in bloom meant a gift to friends or a roadside sale. It was the beginning of small sideline commercial growing, pioneered by Alice and Franklin Barnes. The Senior Barneses had planted many lilacs. To this were later added some 150,000 tulips, which in blooming time prompt a pilgrimage of flower lovers. The lilacs were all the "oldfashioned lilacs that grew in grandmother's New England garden," including the Syringa vulgaris, which has only the white variations.

From them over the years came the so-called "French Hybrids," the "French" derived from the fact that they were largely the development of Victor Hemoine and his son Emile, of Nancy, France, who spanned the years 1823-1942. Results of this work were published in "Lilacs for America," a symposium conducted by the Swarthmore Horticulture Institute in 1942. About seventy per cent of the first one hundred rated varieties was the creation of the Hemoines. They and others tremendously increased the range of colors, the size of clusters and flowers. Among their more sensational varieties are Firmament, a sky blue, Monument, the finest white, and Marechal Foch, lilac with a carmine pink eye.

Greatest lilac breeder today is California's Walter B. Clarke of San Jose. Seemingly starting where the Hemoines left off, he has produced some magnificent varieties, the first of which were introduced to the trade in 1942. Among these is one named after San Diego's own Kate Sessions. A bluish purple, the Kate Sessions shifts in shade from bud to bloom. as do most colors, and is the earliest to bloom. It would be interesting to see it tried out in San Diego, an experiment which might work by withholding water early in August and forcing artificial dormancy. The first patented lilacs have come from Clarke's, and among these are Esther Staley, the first pure pink, and Clarkes Giant, truly named, with enormous clusters, its individual florets sometimes attaining a width of one and one-half inches. Lilacs are now largely propagated by budding on privet because it is quickest and cheapest. By planting the graft about four inches deep they ultimately form their own roots and

the root stock finally disappears. Here at Appletree Farm we have put in a few hundred of Hemoine and Clarke's best and anxiously await their full development.

Peonies have long been grown in Julian and a small beginning has been made in cut flower plantings. John Wimmer and the writer have about a thousand each. More recently the James Shilts, flower growers of Fallbrook, have put in several thousand. They consist largely of the better known florist varieties such as Festiva Maxima. Mme. De Verneville, Edulis Superba, Mons. Jules Elie and Felix Crousse. Mr. Wimmer had a row of Myrtle Gentry last spring, the blooms of which would do credit to any eastern show. Peonies love a heavy soil enriched with rotted manure, demand good drainage, and must be planted with the root buds not over two inches below the surface. With summer irrigation this area provides ideal growing conditions.

There are substantial plantings of daffodils. Since the Oregon and Washington bulb growers began dumping their by-product blooms on the market this field becomes less attractive to the local grower. The northern harvest spread-eagles over flowering period. Although there are newer and finer kinds, the florist trade knows only King Alfred and does not pay a premium for the better and more expensive. Capt. and Mrs. Johnson of Pine Hills have a choice planting selected for them from Jan De Graaf. After an exploring trip through the Pacific Northwest they are about to make an initial adventure into English Holly. Though of slow growth, scattered specimens give evidence it would take kindly to local conditions.

For the flower gardener in general, Julian offers a rich and re-

warding field, even though Poinsettias will not adorn the Christmas door step and Orchids will not grow outdoors. It is a perfect spot for all perennials. We have Pacific Hybrid Delphiniums still putting forth five and six foot blooming stalks after seven years in the ground. Iris do no better anywhere. Clematis in their wide color range offer an interesting variation. Then there is the great group of woody plants where amazing development has been brought about in new flowering Quinces, Wyrgelias, Philadelphus or Mock Orange, the not-to-be-forgotten Dogwood, and the profusion of intriguing natives, as enjoyed by all who attend the annual spring wild flower show.

Give the world peace, and Julian may well increase its floral output and aspire to the title "Home of Sentimental Flowers."

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GREEN DRAGON COLONY

Dr. V. T. Stoutemyer, of the Horticultural Department, U.C.L.A., and a member of the National Council of State Garden Clubs, Inc., writes Mrs. Clinton Abbott concerning new lawn grasses.

#### New Lawn Grasses

Those of us who have lived in California for any length of time are very well aware of the water shortage problem. Yet we all know that nothing takes the place of green lawn-around the home, in our parks or on the golf courses. In fact, there is no substitute as a ground cover. We have all struggled with those exotic plantings, trying to use types of lawn grasses quite inappropriate to this part of the world. Now we are much interested in the experiments being carried on by the University of California in its various Colleges of Agriculture, and "California Garden" is proud to be able to print this courteous and enlightening letter and quotations from the enclosures —D.A. which are mentioned.

UNIVERSITY OF CALIFORNIA College of Agriculture Agricultural Experiment Station

Division of Floriculture and Ornamental Horticulture Los Angeles 24, California

January 24, 1951

Mrs. Clinton Abbott San Diego Floral Association San Diego, California Dear Mrs. Abbott:

I have your request for information on new grasses for California.

I do not know how the people of your area feel about bermuda grass, but we think the new U-3 bermuda is particularly outstanding, since it holds green color through most of the winter in the warmer areas. I believe there is a great future for this grass. I am sending a copy of our leaflet on it.

Possibly one of the most interesting grasses for the average home owner is Merion bluegrass, available occasionally from seed dealers. I think Vaughan's Seed Store in Chicago is selling it by the ounce through their mail order catalog this spring. This grass seed is several times as expensive as ordinary bluegrass, due to the large demand and limited supply. We think it much better than ordinary bluegrass because of its disease resistance. This grass comes entirely true from seed. It was originally discovered on a golf course in Pennsylvania, but has been outstanding in trials in every part of the United States. It takes less mowing and forms a more

dense turf which resists weed invasion and the encroachment of other grasses.

I think the Zoysias may be of some interest here in California. The one which apears to have the best winter color under our conditions so far is the ordinary "flawn", a selection of Zoysia matrella. Z. japonica goes dormant with us quite early. I am sending a leaflet which has a little information about Zoysias.

Yours very truly, V. T. Stoutemyer

Improved Lawn Grasses for Florida Zoysia

Flawn is our registered trade name for our own strain of Zoysia Matrella

Flawn (Zoysia Matrella)—the Zoysia grasses are gaining favor all over the southern half of the United States. This popular grass is entirely immune to Chinch Bugs and most other soil vermin infesting lawns. No known fungus has ever touched it. Tough and wearresistant, it grows slowly and requires less mowing. Unlike bermuda grass, it is a low fertility grass and may be planted on almost any type of soil. It makes enormous root growth deep into the soil and thus, survives where other surface-growing grasses fail. Because it does have a heavy root-growth, it is, by far, the best shade grass known in the south. Zoysia never needs topdressing except possibly with sharp builders sand to improve the soil tilth. The Zoysia lawn should only be fertilized once annually and preferably in October. New plantings will benefit by monthly applications of Nitrogen until the lawn begins to fill. If additional feeding is practiced, the grass will respond but will become lush and require much more mowing. When maintained as above, monthly clipping is usually sufficient but semi-monthly cutting may be necessary when overfed or during the rainy summer season. The less attention a Zoysia lawn receives, the better it will be. Keep well watered until completely filled.

Reprint from pamphlet published by Baker Grass Industries, 2730 N. W. Fourth Street, Miami, 35, Florida.

U-3 bermudagrass, Cynodon dactylon
U-3 bermuda is a fine-bladed strain
of bermudagrass which was selected in

Savannah, Georgia. It has been in the nursery of the U. S. Golf Association Green Section at Beltsville, Maryland, for a number of years, and has been in the turf nursery at the University of California, Los Angeles Campus, since the summer of 1949.

U-3 is a rapid grower, even under adverse water and high temperature conditions, and requires fertilizer and enough water to establish the initial covering. Once established, the turf, under low mowing, will withstand long drought periods and in the fall of the year will remain green long after other strains of bermuda have gone dormant.

U-3 will not thrive in shade and does poorly when neglected. Continued heavy frost will cause it to go off color, but in early spring it is the first of the bermudagrasses to green up.

No seed is available, and it has not been known to set seed in the East.

The ideal method for planting U-3 is to develop a nursery similar to a bent stolon nursery. Sprigs, plugs, or strip sods may be started also in freshly-prepared soil.

After a sod is developed in the nursery, 2-inch plugs or larger may be moved to where it is desired to grow U-3 permanently. Plugs may be placed on 6-inch centers. The planting is done at the season when growing conditions are ideal for bermudagrass. It is important that the soil where U-3 is to be planted be loosened prior to planting. A tool such as the aerifier prepares the soil properly.

Watering is important for a short period after the transplanting of the stolons, and fertilizing with nitrogen hastens the growth if applied when the sprigs start new runners.

If facilities are available, U-3 can be propagated rapidly in flats under glass.

A report is desired from all who obtain U-3 bermuda from the UCLA turf garden for trial. Send information about results to the Division of Floriculture and Ornamental Horticulture, University of California, Los Angeles 24, California.

Reprint from Leaflet No. 1—August, 1950, Research Program in Turf Culture, College of Agriculture, University of California, Los Angeles.

In the second of a series on outstanding horticulturists,

### Meet Alfred Hottes

Among celebrities who gravitate to California, it is natural to find many with horticultural interests. Prominent among these is Alfred Carl Hottes, a stimulating force in garden activities all over the state, as well as in the La Jolla community he has called home the past eleven years.

A native New Yorker, he has woven a fine horticultural pattern on the warp of his Master's degree in Science from Cornell in 1914, a twelve-year teaching career at Ohio State University and a long period of magazine editorship, interspersed with lectures and writing. His eight basic books on Annuals, Perennials, Climbers and Ground Covers, Shrubs, Trees, How to Increase Plants, 1001 Garden Questions Answered and a Garden Guide, are on the garden shelves of practically every library in the country. His latest volume, "Flower Garden for the Amateur," is clearly and attractively presented with some of the author's own sketches, an art expression he has developed in recent years.

For one book, not on horticulture. Mr. Hottes became a world traveler in order to glean bright tinsel fabrics to incorporate in "1001 Christmas Facts and Fancies," a work that brings new meaning to our holiday customs. "Garden Facts and Fancies," a late book, is shot through with the rich threads of garden philosophy that have highlighted the texture of the author's writing, lectures or just friendly conversations. This volume, embodying many of his popular lectures, is a country-wide favorite with those who have heard his talks and enjoy recalling his dramatic gyrations of delivery while they re-read a familiar passage. The illustrations are splendid examples of his fine scratch-board art. We hope that, a way may be found to publish his much-needed book on rare and unusual sub-tropicals, with his beautiful illustrations in full color. A companion piece on cacti and succulents, of which he has many paintings, would be another treat.

The enthusiasm of Alfred Hottes impels his listeners or readers to action. He is an apostle of "doing." As a Pied Piper, he gathers all within sound of his voice on a garden tour, and keeps them. He makes his points telling and graphic by the use of simple short sentences that change dry scientific facts to interesting ones merely by stressing the historical, legendary, curious, artistic and cultural aspects that stimulate the memory. He does this easily, drawing from a phenomenal knowledge of every phase of his subject, a knack that accounts in great part for the perennial popularity of his books and lectures.

In addition to familiarity with a chosen subject and the ability to present it well, a prime ingredient in the success of an undertaking is the character of the person behind it. It is hard for those who know him to realize that the name, Alfred Hottes, commands national recognition, because he has no "front." He wears his cloak of modesty so well that he seems one of us. His success comes from an absorbing love of his subject rather than a desire for prestige.

In evaluating Mr. Hottes, we find a man whom animals adopt, and children accept on sight. Slender and alert, he is an indefatigable worker. His is a generous nature that takes the time and



patience to explain the elements of scratchboard drawing to a novice, the fundamentals of writing to an aspiring author, or the variations of a plant to a dirt gardener. His criticisms are concise and constructive.

Our garden expert enjoys his fellow man. He is blessed with an infectious sense of humor and an instinctive understanding of when to cheer with a story or listen in silent sympathy. His versatile interests seem to include every creative field. He has kept a fine sense of balance on the tightrope of living. Relegating superficial "things" to their proper place, he offers close association with the growing plants of the garden as a balm to the troubled souls of today. Over and above his ability as editor, scientist, writer, dramatist, artist and lecturer, Alfred Hottes is pre-eminently a teacher, inspired and inspiring. When we hear him say, "To a gardener no day is just another day-it is always a new day," it is no wonder that he has been described as "always sort of a-kindle."

Alfred Hottes seems to have savored the elixir of life so that he can offer it back to us, fresh and bubbling, between the covers of a book, from the platform above us, or here, where we walk together, on "holy earth."—A. M. C.

If you are landscaping a new home, the Civic Landscape Committee ask that you heed their plea by-

## Planting for Safety

CIVIC LANDSCAPE COMMITTEE

"How can I, as a home owner, advance the cause of Safety in my neighborhood?" is an oftheard question these days. For those of us whose homes are located at street intersections there is one significant thing we can do, especially when our homes are being landscaped. That is a simple, yet often overlooked item of safety, namely, to plant only those vines, shrubs or hedges which can be kept low in height, leaving unobstructed the view at corners next to the sidewalk.

Although the planting at each blind corner (and driveway) should be handled as an individual problem, home owners in general can help reduce traffic hazards by keeping sight lines open at intersections and by using care in selecting plants known to be lowgrowing or trailing in habit and form, as for example the colorful pink, white or red Ivy Geraniums. (Fig. 3).

When a local garden club member suggested to a home owner that he reduce the height of a six

foot Eugenia myrtifolia h e d g e which had become a traffic hazard at the intersection, he replied, "A good idea. I hadn't realized what a blind corner had been created by this hedge. I was going to trim it this month anyway, and can just as well trim it back to three feet as to leave it the present height." Undoubtedly there are others who have never considered that by lowering their plantings at street corners they could contribute immeasurably to traffic safety.

In Santa Barbara, as well as in other southern California communities, civic-minded individuals have given impetus to this idea by setting an example, by talking about it in their own neighborhoods and by interesting local gardeners. In that city a project of this nature has developed in accordance with recommendations of the National Safety Council and was first undertaken by the Santa Barbara County Safety and Roadside Council, the California Garden Clubs, Inc., and the California Conservation Committee, Garden Club of America. The Plans and Planting Branch of the Community Arts Association in Santa Barbara has started organizing district committees which will cooperate with improvement organizations in opening up blind corners and thus safeguard its citizens at street intersections and driveways.

Landscape architects will point out a number of low-growing shrubs and vines especially well adapted for planting along driveways and property lines at corners which stay low with the minimum of trimming, or none at all. These include the handsome Natal Plum, Dwarf type (Carissa grandiflora prostrata); the Rosy Veronica (Hebe carnea); the Yeddo Hawthorn (Raphiolepis ovata); the spreading Firethorn (Pyracantha yunnanensis) with its bright red berries; the Pftizer Juniper (Juniperus pfitzeriana); also the Savin Juniper (Juniperus sabina tamarisicifolia), a particularly choice low-growing evergreen, and last but not least, two col-







Fig. 1) Not planted for safety. Blind intersection at sidewalk prevents driver backing out from seeing approaching children. Had hedge been kept down to three feet it would have allowed clear vision. Fig. 2) Attractive fence open at top to prevent blind corner; it permits clear view across corner at street intersection. Fig. 3) Colorful Ivy Geranium is ideal plant for safety at street intersections. Here is the place for low-growing shrubs listed above.

If in doubt as to what to do on a week-end, take part in the

#### Local Nature Walks

BAYARD BRATTSTROM

Among the many free educational activities of the Natural History Museum in Balboa Park. San Diego, one of the most popular is the Saturday Nature Walk. Started in 1922, these walks are given every Saturday of the year except during June, July, August and September, and are open to any interested person.

A variety of subjects appeal to the interests of everyone. Walks are held on fossils and mineralogy

orful shrubs — the Dwarf Yellow Lantana (Lantana camara) and the white flowered Breath of Heaven (Diosma ericoides). Here are eight low-growing shrubs which garden owners are using more and more in lieu of the Eugenia myrtifolia hedges seen so frequently in parts of San Diego. These Eugenia hedges if used, are much more attractive from a landscape point of view if not allowed to extend beyond the front of the house. Where they do, they can be trimmed back on the "step-back" principle.

Our Civic Landscape Committee has a two-fold challenge: to enlist the cooperation of those about to have their homes landscaped to use one or more of the low-growing varieties when planting along property lines or setback lines at corners, and to ask you to use your influence in having tall hedges at blind corners reduced to three feet or under for safety's sake.—Civic Landscape Committee, San Diego Floral Association. Mrs. Clinton Abbott. Mrs. John G. Clark, Harold L. Curtiss, Kenneth Gardner, Roland Hoyt, Mrs. Norman Lawson, Mrs. Lester A. Wright.

for the Geologist, on birds, mammals, reptiles, amphibians, etc., for the Zoologist.

For the Botanist, the walks cover a variety of subjects, such as Lower Plants, such as Algae, Fungi, Ferns, Mosses, etc. Walks are also held on the Native and Cultivated plants of certain areas, or on a certain group of plants, for example, Palms or Pines.

Walks are lead by members of the museum staff, by students and faculty of San Diego State College, by faculty and staff of Scripps Institution of Oceanography, and by members of the staff of the San Diego Zoo.

For Horticulturists, the following walks are suggested:

Algae, March 3. Algae, Seaweeds and Kelp are of great economic importance, especially to San Diego. More than 100 different products are derived from types of algae, including Agar-Agar for bacteriological work, iodine, and basis for cosmetics, tooth powder, and ice cream. Some of the common native Marine Algae of Bird Rock will be studied on this date.

Mount Soledad, March 10. Though this will be a general walk, the outstanding spring wildflowers of the chaparral will be studied along the way. The group will meet at the end of "R" Bus Line in La Iolla at 9:30 A.M.

Pests of Ornamental Plants in Balboa Park, March 24. This walk, to be led by Calvert Norland, San Diego State college professor, will study the plant and animal pests found doing injury to the ornamental plants of the park, and will start from in front of the Natural History Museum.

Mosses, Liverworts and Lichens, March 31. Another group of easily-overlooked Lower Plants will be studied on this date in Balboa Park.

April 7 the Walk will be special, by popular request, and will include a trip to the desert and a hike up to the first grove of palms, Washington filifera, in Borrego Palm Canyon.

In May the two outstanding botanical trips will include one on the Native Chaparral Plants of Alvarado Canyon, May 12, and one on the Cultivated Palms of Presidio Park, May 19.

The all-day walk at Cormorant Cliffs, last of the season, will include a discussion of the cultivated plants of the area near The Cove, La Jolla, a picnic lunch, followed by a walk to the famous Cormorant Cliffs to observe the birds.

For details of meeting places, time, busses, etc., the reader should refer to the monthly Bulletin of the Natural History Museum. It may be obtained without charge by calling M. 0523 or by writing to the Museum, Balboa Park.

It is our hope that notices of these walks pertaining to Botanical pursuits will encourage many of vou to attend.

#### SCHEDULE OF WALKS

MARCH

- MARCH

  Marine Algae of Bird Rock, 12:15 PM
  10—Mount Soledad, 9:30 AM
  17—Birds of Mission Vallev, 9:30 AM
  24—Pests of Ornamental Plants in Balboa
  Park, 9:30 AM
  31—Mosses, Liverworts and Lichens of
  Balboa Park, 9:30 AM
- APRIL

  7 —Borrego Palm Canyon (all day event)

  14—Animals and Plants of a Vernal Pool,

  1:00 PM
- 21—Spring Insects of Balboa Park, 9:30 AM 28—Birds of Golden Hills Park, 9:30 AM
- MAY 5 —Spring Plants of the chaparral, 9:30 AM 12—Reptiles and Amphibians of Alvarado Canyon, 10:00 AM 19—Palms of Presidio Park, 9:30 AM 26—Cormorant Cliffs (all day event)

Mr. Hottes explains that the Ginkgo is suffering from mis-spelling, is really the Ginkyo!

## Ginkgo

Alfred C. Hottes

Gink'go. Ginkgo is a Chinese name. Family Ginkgoaceae, distantly related to the conifers. In the proceedings of the German Forestry Society it relates that the original way of spelling this name was *Ginkyo*, the *g* having been used as a typographical error.

The Ginkgo is not found in the wild state in either China or Japan, but it has been in cultivation for 1200 years. It is one of the most primitive of our trees and ranks even below the conifers in the botanical scale. At one time during the Mesozoic Age, the world was populated with many other trees resembling the Ginkgo, but now it is the only one of this group. Thirty miles east of Ellensburg, Wash., there is a Ginkgo petrified forest of 6500 acres.

Ginkgo biloba (Salisburia adiantifolia), Maidenhairtree, Silverfruit, Tree-of-the-forty-coins. See plate on cover. The branches of the tree are extremely supple, and when young they are able to stand up perfectly straight. With age they bend down and the tree becomes very spreading in habit. They are known to grow 120 feet tall. Von Mueller says that the trees live 3,000 years, but this may be a gross exaggeration. The bark is ashen gray. The twigs have bark which shreds with fibers. The leaves are frilled on the edges, and a few of them are two-lobed. In the fall of the year they turn to a bright golden color. Americans consider the yellowish-brown fruits as having a disagreeable aroma which has been described as a body odor. This is due to a fatty acid, ginkgoic acid, which beMiss McLouth keeps us posted on what to read horticulturally among-

#### New Books

ADA McLouth

AMERICAN HEARTWOOD, by Donald Culross Peattie. Boston, Houghton Mifflin Co. \$3.50. 1949.

In his Santa Barbara study, the author, collecting material for his volume on western trees, lingers lovingly over the part played by trees in our history, was constrained to write this volume of reflections. He traces the arrivals and departures of all the principal exploring parties that reached these shores, from the very first Icelandic voyagers to the days of the covered wagon. Their obser-

comes rancid as does butter. We are not tempted to eat these fruits, but the Orientals are fond of them. In the center of the fruit is a nut which is indeed grayish or silvery, hence the common name Silverfruit.

Uses. Ginkgos are clean trees and because their foliage is unique they are greatly prized both for street trees and specimen planting. Because of the fact that only one sex is borne on the tree and the female trees produce foulsmelling fruit, nurseymen have budded seedlings with male cions. Woon Young Chun writes, "A leaf of Ginkgo is used as a book mark as it keeps away the insects that attack paper. The leaves are also used by the Japanese to fertilize rice fields, because they ascribe to them insecticidal value."

Cultures The Ginkgo is hardy throughout the entire United States. It is not particular as to soil, and it might be wise to give it the usual amount of water one gives to the other non-desert trees. It is free from enemies.

vations and reactions to the forest lands were an index to their future on this continent, and by their descriptions of trees it has often been possible to trace routes that could not definitely be determined otherwise.

The author's intimate feeling for trees extends from the chaparral of California where he suffered drought and exulted in rain, to his favorite Eastern state, Virginia. He recounts the experiences of the first settlers, their early interest in the tall pines, so excellent for masts, the shipment by John Smith to England of logs within six weeks of their arrival, this constituting the first export to Europe from America and resulting in the establishment of a sawmill on the site where Richmond now stands.

WATER, LAND AND PEOPLE, by Bernard Frank and Anthony Netboy. N. Y., Knopf. \$4. 1950.

In this book, both authors, who have been in government service, review the history of our use of natural resources and outline plans for the future. Most interesting is their account of difficulties arising between departments such as the Department of the Interior and the Army Engineers, which are prejudicial to the best interests of the people.

THE WATER SEEKERS, by Remi A. Nadeau. N. Y., Knopf. \$3.50. 1950.

A dramatic account of the need of water throughout the history of Los Angeles and the various efforts to locate a supply and make it available. It is only one of many now current on the subject of water conservation, now recognized as a serious national problem. His lively treatment of the subject and the controversial nature of many of the issues is arousing much interest.

WEEDS: GUARDIANS OF THE SOIL, by Joseph A. Cocannouer. N. Y., The Devin-Adair Co. \$2,75, 1950.

The author holds in such affectionate regard our little brothers the weeds, almost he does convince. Any gardener who has toyed with the idea of cultivating the weeds and ceasing to try to produce the beautiful specimens

he sees in the gardens of his friends may think he has found support. However, the cultivation of weeds is not recommended as an end in itself but as a means of restoring to the soil the needed organic materials.

Mr. Cocannouer, a long-time government employee in the agricultural service, sees the salvation of the soil in controlled use of weeds.

Those who are interested in soil science, practical agriculture, theories of conservation, will find good reading here.

Mr. Ecke replies to the article written by Sally Bancroft in the Winter issue of California Garden.

PAUL ECKE

The California Poinsettia Grower Encinitas, California

January 29, 1951

Miss Sally Bancroft c/o California Garden San Diego, California

Dear Miss Bancroft:

Thank you for the very nice article which you wrote for *California Garden*. I would like to call your attention to the editor's item relative to the double poinsettia.

The double poinsettia, which on pictures looks practically identical to my own, was scattered around the United States and Canada many years prior to the time I started distributing the double Henriette Ecke variety. A good many of the double type were grown in Ventura and were scattered around in the homes and along the main street of Ventura planted in the parkways. The distinct difference between the double Henriette Ecke and the oldstyle double is that its habit of blooming is entirely different. The old style, scattered in Ventura, commenced to bloom around Christmas and came into perfect bloom sometime in January and lasted well into February. To get it to bloom in the greenhouse for Christmas, it required a temperature of ninety degrees. The double Henriette Ecke starts blooming in California in November and is normally fully matured at Christmas and does last into January, but its habit is to bloom fully five or six weeks earlier than the old-type double, which was distributed prior to the time that I distributed the double Henriette Ecke.

On the white or yellow poinsettias there have also been in existence to my knowledge at least six different types. The one that is scattered around the most in California sported in one of my fields in 1923 from one of the old early varieties, and I still use this variety for cut-flower purposes. The one that I am now selling as Ecke White is an entirely new white and blooms somewhat later than the other white outdoors. It is yellow when grown outdoors, but when grown under glass, it is a good clear white. Under glass this new variety blooms at the same time as my other pot-plant varieties for Christmas and requires no special

Also, just to give you a little more complete information, I thought it might be interesting to you to know that we have one variety that blooms in October and usually is past its prime by Thanksgiving.

Sincerely yours,

Paul Ecke

PE:MH

The who, what, when, where and why by an expert in—

#### Your Garden

ROBERT H. CALVIN

MARCH: Hurry to get bareroot roses and fruit trees before they are canned up. Plant citrus and avocado trees now. Be sure to give them room to develop properly . . . Dahlia roots and plants come in this month. To plant, dig a hole shovel-deep. Put a shovelful of compost and a handful of steamed bonemeal in the hole. Work thoroughly into the soil. Firm. Replace top-soil to within 8 inches of top. Lay tuber in hole. Set a stake two or three inches from eve on neck of tuber. Cover with about five inches of fine soil. If soil is good and damp when you plant, do not water until young dahlia shoots appear, after which water sparingly, gradually increasing as plant grows . . . Try planting seeds of some of the new flowers such as Cleome (Spider Flower) and the exciting dwarf Tithonia (Mexican sunflower). Plant dahlia seed in a protected flat for transplanting into the garden. You may have thrilling surprises . . . Take cuttings of Chrysanthemums now. Off-shoots of Arctotis with some roots may be taken now. Place in a flat of coarse sand until good root system develops, then transplant to a permanent spot . . . Lawns and all annuals and perennials showing active growth will benefit by a feeding of commercial fertilizer now. Organic fertilizers give best results ... When pruning, remove all wood from shrubs and trees injured by frost. Pinch out the terminal buds on new growth of most spring flowering shrubs and herbaceous perennials when six or eight inches long. This practice will make bushier growth and many more flowers. Prune winter flowering

shrubs by removing old flower heads that produce seed or persist in hanging on to detract from their appearance. Cut Eranthemum back severely after all bloom is gone. Prune all flowering fruit trees (except Cherries) by cutting blossoms and again when all bloom is passed. Cut back severely because bloom comes on new wood. Be sure to remove suckers and water sprouts from fruit trees as they appear around the base of or inside the main scaffold of branches . . . Synchronize spray program with active growth of plants susceptible to insect pests and fungus growth. Don't use sprays lethal to animals or humans. These shrubs are likely to give you trouble, being attractive to aphids, thrip, scale (black and San Jose), white flies and leafh o p p e r s: Eugenia, Pyracantha, Rose, Fuchia, Viburnum, Laurel, Myrtus (Myrtle), Choisya, Escallonia, Natal Plum, Datura and Oleander. Citrus are subject to three different scale insects and to red spider or mite. Oil spray is most effective for scale, and sulphur for red spider. These materials should not be applied together. Thirty days should elapse between sprayings with either one or else severe burning of the foliage will result. Chewed leaves on plants are usually blamed on worms, but many times a grasshopper is doing the damage. Slugs and snails are a serious pest on young plants, so keep out a bait for control.

APRIL: If you planted early, results will begin to show now. However, this is one of the busiest planting months of the year. Nurseries are well stocked with annuals, perennials and sub-tropicals for planting now. Many flower seeds may be sowed in the open ground and flats. If you want special color combinations buy seeds and start them yourself.

However, you will find many annuals offered in separate colors. A mixed color border can be as beautiful and eye-catching as the well planned complementary color border . . . Plant Camellias now before they start active growth. Root loss from transplanting when young feeder roots are active will set the plant back in both growth and flowering. Do not feed newlyplanted Camellias the first six months. Start feeding established Camellias in ground, tub or pot. Many gardeners over-feed with the result that flowering is impaired by too much foliage growth. This usually shows up months later by a burning at the tips and edge of the leaf. If new growth starts before plants are through blooming, the buds are pushed off before they can open. A good mixture is ½ cottonseed meal or castor bean meal and ½ peatmoss or sand. To this add 10% powdered sulphur. The So. Cal. Camellia Society recommends this mixture be applied as follows: 1 cup to plants 12 to 36 inches, 2 cups to plants 3 to 4 feet, 3 cups to plants 4 to 6 feet, 4 cups to plants 6 to 8 feet. Use ½ this amount on containergrown plants . . . Cut back springblooming shrubs after flowering. When cutting the first Roses be sure to cut each rose above the third set of leaves on the stem, just above where it comes from the cane, and always above a leaf pointing to the outside of the bush. When picking a rose at the tip of a new cane do not remove more than one-third of the cane. Get out the hedge shears and sharpen before shearing. Hold new growth to  $1\frac{1}{2}$  inches ... Spraying: Shell Nicona is back. Although this is an insecticide it also is effective in keeping mildew and rust down on roses, if sprayed at two-week intervals.

MAY: In the past few years the sod web worm has played havoc with new lawns. Many soil fumigants have been brought out to control the situation. Many and costly applications have to be made to control this scourge. A well fed lawn will have no trouble with this pest, providing the grass is not skinned down to the roots every time it is moved. 1½ to 2 inches high is the minimum height lawns should be cut. For sod web worm use one pound of ammonium sulphate to 200 sq. ft. of lawn area. Water it on with an applicator on the hose. Within a week you should begin to see results. Let the lawn clippings go back into the lawn. One month after this treatment feed with an organic fertilizer at the rate of 4 or 5 lbs. to 100 sq. ft... Mulch your garden now. Keep down weeds to conserve moisture and keep insect pests and diseases in check. Incorporate weeds into compost pile. Watering becomes increasingly important now that rains are past. Irrigate, don't sprinkle. Some plants will not tolerate a dry condition. Dryness about the root zone will make it less resistant to the onslaught of insect pests. A clean garden, well-fed, mulched and properly watered will be less work and bring richer rewards of satisfaction and beauty.



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